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A LICHEN NEW TO THE UNITED STATES.

BY EUGENE A. RAU.

Messrs. Eckfeldt & Calkins, in their list of the Lichen-Flora of Florida, published in a recent number of this JOURNAL, include some rare and interesting species. In regard to their No. 297, *Trypethelium heterochrous* (Mont.) Tuck., very rare, introduced from Cuba, I would beg to remark that I collected this lichen in April, 1885, and sent specimens to Dr. Eckfeldt for identification. For the benefit of those who have opportunities to search for lichens in Florida, I will mention that this rare species was found along the shore of Lake Osceola, Winter Park, in Orange county, growing upon living branches of *Ilex Dahoon*, Walt.

NEW WESTERN UREDINEÆ.

BY S. M. TRACY AND B. T. GALLOWAY.

Among the *Uredineæ* collected last summer by Tracy & Evans, we find the following species which appear to be new:

UROMYCES ARIZONICA, Tracy & Gal.—I. Hypophyllous; spots conspicuous, rather large, pale; æcidia numerous, in definite clusters, scattered or often crowded, small, short, border often somewhat coarsely scatered; spores subglobose, epispore thin, smooth, 18–21 μ .—II and III. Epiphyllous; spots small, round or oval, reddish-brown, long covered by the epidermis.—II. Spores oval, pale, epispore thin, minutely echinulate, 20–22 x 23–25 μ .—III. Spores globose or obovate, apex sometimes slightly thickened, brown, 20–22 x 25–27 μ ; pedicel one and a half to two times the length of the spores, hyaline, tapering towards the base. On leaves of *Eriogonum racemosum*, Flagstaff, Arizona, June 27, 1887.

PUCCINIA FRAGILIS, Tracy & Gal.—III. Amphigenous; sori scattered, long covered by the epidermis, which at length is irregularly ruptured; spores broadly oval, dark brown, minutely roughened, 21–33 x 30–34 μ , apex rounded, obtuse, not thickened, very slightly constricted, pedicel less than half the length of the spore, hyaline, very fragile. On leaves of *Arenaria pungens*, Reno, Nevada, June 19, 1887.

PUCCINIA CAULICOLA, Tracy & Gal.—II. Hypophyllous; sori very small, very numerous, covering the entire surface; spores subglobose, epispore thick, minutely roughened, usually with one or more prominent vacuoles, light brown, 15–17 x 20–22 μ .—III. On stems; sori scattered, usually elongated, black; spores oval, not constricted, 25–27 x 35–40 μ ; apex much thickened, nearly hyaline, often with a similar thickening on one side of the lower cell, smooth; pedicel nearly hyaline, very long, several times the length of the spores. On *Salvia lanceolata*, Canon City, Colo., Aug. 21, 1887.